Application No. 09/830,488   File No. RXSD 1001-3

In the claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1   1. (Original) A system for producing customized audio data, comprising:

2   a source of an audio data product;

3   processing resources, coupled to the source of an audio data product, configured

4   to associate the audio data product with a customer hearing profile for use in production

5   of a customized audio data product.

1   2. (Original) The system of claim 1, wherein the customer hearing profile comprises

2   coefficients of a transfer function to transform the audio data product according a hearing

3   characteristic of a customer.

1   3. (Original) The system of claim 1, wherein the customer hearing profile comprises an

2   identifier of transfer function to transform the audio data product according a hearing

3   characteristic of a customer.

1   4. (Original) The system of claim 1, wherein the customer hearing profile comprises an

2   identifier of a transfer function and coefficients of the identified transfer function to

3   transform the audio data product according a hearing characteristic of a customer.

1   5. (Original) The system of claim 1, including a machine readable registry of customer

2   hearing profiles corresponding to registered customers of the audio data product in

3   communication with data processing resources, and further including resources for

4   reading, modifying and writing particular customer hearing profiles in the plurality.

1   6. (Original) The system of claim 1, wherein the customer hearing profile includes a

2   value indicating listening conditions in which the customized audio data product is to be

3   played.

1   7. (Original) The system of claim 1, wherein the customer hearing profile includes a
2   value indicating a hearing characteristic of a customer for whom the customized audio
3   data product is to be played.

1   8. (Original) The system of claim 1, wherein the customer hearing profile includes a
2   specification of psycho-acoustic characteristics of a customer for whom the customized
3   audio data product is to be played.

1   9. (Original) The system of claim 1, wherein the customer hearing profile includes an
2   audiogram characterizing a customer for whom the customized audio data product is to
3   be played.

1   10. (Original) The system of claim 1, wherein the customer hearing profile includes
2   software defining a transfer function for producing the customized audio data product.

1   11. (Original) The system of claim 1, including a source of a plurality of customer
2   hearing profiles, and wherein the data processing resources include logic to accept data
3   concerning a customer for whom the customized audio data product is to be played, and
4   to produce a customer hearing profile for the plurality of customer hearing profiles in
5   response to the accepted data. 12.   The system of claim 1, including a source of a
6   plurality of customer hearing profiles, and wherein the data processing resources include
7   a network interface, and logic to accept, via the network interface, data concerning a
8   customer for whom the customized audio data product is to be played, and to produce a
9   customer hearing profile for the plurality of customer hearing profiles in response to the
10   accepted data.

1   13. (Original) The system of claim 1, including a source of a plurality of customer
2   hearing profiles, and wherein the data processing resources include a network interface,
3   and logic to accept, via the network interface, data concerning a customer for whom the
4   customized audio data product is to be played, and to modify a customer hearing profile
5   in the plurality of customer hearing profiles in response to the accepted data.

1   14. (Original) The system of claim 1, including a source of a plurality of customer

2   hearing profiles, and wherein the data processing resources include a network interface,

3   and an interface accessible to a user via the network interface to accept data concerning a

4   customer for whom the customized audio data product is to be played, and to produce a

5   customer hearing profile for the plurality of customer hearing profiles in response to the

6   accepted data.

1   15. (Original) The system of claim 1, including a source of a plurality of customer

2   hearing profiles, and wherein the data processing resources include a network interface,

3   and an interface accessible to a user via the network interface to accept data concerning a

4   customer for whom the customized audio data product is to be played, and to modify a

5   customer hearing profile in the plurality of customer hearing profiles in response to the

6   accepted data.

1   16. (Original) The system of claim 1, wherein the processing resources include a

2   network interface for connection to a data network, and the source of the audio data

3   product comprises the network interface.

1   17. (Original) The system of claim 1, wherein the processing resources include a

2   network interface for connection to a data network, and resources to receive the customer

3   hearing profile via the network interface.

1   18. (Original) The system of claim 1, wherein the audio data product comprises pre-

2   recorded audio tracks.

1   19. (Original) The system of claim 1, wherein the audio data product comprises pre-

2   recorded audio music tracks.

1   20. (Original) The system of claim 1, wherein the audio data product comprises live

2   audio music streams.

1   21. (Original) The system of claim 1, wherein the audio data product comprises pre-
2   recorded audio voice tracks.

1   22. (Original) The system of claim 1, wherein the audio data product comprises live
2   audio voice streams.

1   23. (Original) The system of claim 1, wherein the audio data product comprises live
2   audio telephone data.

1   24. (Original) The system of claim 1, wherein the processing resources include a
2   network interface for connection to a data network, and user input comprises an interface
3   accessible via the network interface.

1   25. (Original) The system of claim 1, wherein the user input comprises tools by which a
2   user selects an instance of the encoded audio data product, and issues a request for the
3   selected instance.

1   26. (Original) The system of claim 1, including a source of a plurality of customer
2   hearing profiles, and wherein the user input comprises tools by which a user adds a
3   customer hearing profile to the plurality of customer hearing profiles.

1   27. (Original) The system of claim 1, including a source of a plurality of customer
2   hearing profiles, and wherein the user input comprises tools by which a user modifies a
3   particular customer hearing profile in the plurality of customer hearing profiles.

1   28. (Original) The system of claim 1, wherein the processing resources include logic to
2   produce information about billing for requested audio data products for customers.

1   29. (Original) The system of claim 1, wherein the audio data product comprises a
2   digitally encoded product.

1   30. (Original) The system of claim 1, wherein the audio data product comprises an

2   analog encoded product.

1   31. (Original) The system of claim 1, wherein the audio data product comprises data

2   encoded according to a particular format suitable for playback by audio systems adapted

3   for the particular format, and the customized audio data product comprises data encoded

4   according to the particular format.

1   32. (Original) The system of claim 1, wherein the data processing resources include a

2   processor which transforms the audio data product to the customized audio data product

3   using the customer hearing profile, a network interface, and logic for transmitting the

4   customized audio data product to a remote location via the network interface.

1   33. (Original) The system of claim 1, wherein the data processing resources include a

2   network interface, and logic for transmitting the audio data product and at least a portion

3   of the customer hearing profile to a remote location via the network interface.

1   34. (Original) The system of claim 1, wherein the data processing resources include a

2   network interface, and logic for transmitting at least a portion of the customer hearing

3   profile to a remote location via the network interface for use in transforming the audio

4   data product.

1   35. (Original) The system of claim 1, wherein the data processing resources include a

2   processor which transforms the audio data product to the customized audio data product

3   using the customer hearing profile, a memory device to store data on a machine readable

4   medium, and logic for storing the customized audio data product on the machine readable

5   medium.

1   36. (Original) The system of claim 1, wherein the processing resources comprise a

2   processor coupled to a device for playing the customized audio data product.

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1   37. (Original) The system of claim 1, wherein the processing resources comprise a

2   processor coupled to a network, and resources for transmitting the customized audio data

3   product to the customer via the network.

1   38. (Original) The system of claim 1, wherein the data processing resources include an

2   interface for reading a hearing profile from a portable data storage device.

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1   111. (Original) A method for providing customized audio data products, comprising:

2   reading a particular audio data product;

3   associating a hearing profile with the particular audio data product;

4   modifying the particular audio data product according to the hearing profile to

5   produce a customized audio data product.

1   112. (Original) The method of claim 111, wherein the step of associating a hearing

2   profile with the particular audio data product includes retrieving the hearing profile from

3   a portable memory device.

1   113. (Original) The method of claim 111 including maintaining a registry of hearing

2   profiles, and the step of associating a hearing profile for the customer with the particular

3   audio data product includes retrieving the hearing profile from the registry.

1   114. (Original) The method of claim 113, including providing tools accessible via a

2   network for gathering information about hearing characteristics of customers, and

3   modifying hearing profiles in the registry in response to the information.

1   115. (Original) The method of claim 113, including providing tools accessible via a

2   network for gathering information about hearing characteristics of customers, and

3   modifying hearing profiles in the registry in response to the information according to an

4   optimization modeling process.

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1   116. (Original) The method of claim 111, wherein the particular audio data product
2   comprises pre-recorded audio tracks.

1   117. (Original) The method of claim 111, wherein the particular audio data product
2   comprises pre-recorded audio music tracks.

1   118. (Original) The method of claim 111, wherein the particular audio data product
2   comprises live audio music streams.

1   119. (Original) The method of claim 111, wherein the particular audio data product
2   comprises pre-recorded audio voice tracks.

1   120. (Original) The method of claim 111, wherein the particular audio data product
2   comprises live audio voice streams.

1   121. (Original) The method of claim 111, wherein the particular audio data product
2   comprises live audio telephone data.

1   122. (Original) The method of claim 111, including providing tools by which a user
2   selects an instance of the particular audio data product, and issues a request for the
3   selected instance.

1   123. (Original) The method of claim 111, including providing a source of a plurality of
2   customer hearing profiles, and tools by which a user adds a customer hearing profile to
3   the plurality of customer hearing profiles.

1   124. (Original) The method of claim 111, including providing a source of a plurality of
2   customer hearing profiles, and tools by which a user modifies a particular customer
3   hearing profile in the plurality of customer hearing profiles.

1   125. (Original) The method of claim 111, wherein the particular audio data product

2   comprises a digitally encoded product.

1   126. (Original) The method of claim 111, wherein the particular audio data product

2   comprises an analog encoded product.

1   127. (Original) The method of claim 111, wherein the particular audio data product

2   comprises data encoded according to a particular format suitable for playback by audio

3   devices adapted for the particular format, and the customized audio data product

4   comprises data encoded according to the particular format.

1   128. (Original) The method of claim 111, wherein the hearing profile includes a value

2   indicating listening conditions in which the customized audio data product is to be

3   played.

1   129. (Original) The method of claim 111, wherein the hearing profile includes a value

2   indicating a hearing characteristic type of a customer for whom the customized audio

3   data product is to be played.

1   130. (Original) The method of claim 111, wherein the hearing profile includes a

2   specification of psycho-acoustic characteristics of a customer for whom the customized

3   audio data product is to be played.

1   131. (Original) The method of claim 111, wherein the hearing profile includes an

2   audiogram of a customer for whom the customized audio data product is to be played.

1   132. (Original) The method of claim 111, wherein the hearing profile includes software

2   defining a transfer function for producing the customized audio data product.

1   133. (Original) A device for producing customized audio data, comprising:

2   data storage storing an audio data product and

3   a hearing profile of a customer for the audio data product; and

4   logic to produce a customized audio data product in response to the hearing

5   profile and the audio data product.

1   134. (Original) The device of claim 133, including:

2   an interface by which the customized audio data product is received from a

3   remote site.

1   135. (Original) The device of claim 133, including:

2   logic to store the customized audio data product on a machine readable medium.

1   136. (Original) The device of claim 133, wherein the customized audio data product

2   comprises at least a portion of the hearing profile, and the audio data product for

3   transformation according to the hearing profile at a remote site.

1   137. (Original) The device of claim 133, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product.

1   138. (Original) The device of claim 133, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product, and

3   a parameter used for decoding the transformation.

1   139. (Original) The device of claim 133, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product, and

3   a parameter associated with the customer used for decoding the transformation.

1   140. (Original) An article of manufacture comprising:

2   a data storage medium configured for connection to, and for disconnection from,

3   an audio playback device; and

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4   a customized audio data product stored in the data storage medium, the

5   customized audio data product comprising an audio data product customized in response

6   to a hearing profile of a customer.

1   141. (Original) The article of claim 140, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product, and

3   a parameter for identification of the customer.

1   142. (Original) The article of claim 140, wherein the customized audio data product

2   comprises at least a portion of the hearing profile, and the audio data product for

3   transformation according to the hearing profile.

1   143. (Original) The article of claim 140, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product.

1   144. (Original) The article of claim 140, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product, and

3   a parameter used for decoding the transformation.

1   145. (Original) The article of claim 140, wherein the customized audio data product

2   comprises a transformation according to the hearing profile of the audio data product, and

3   a parameter associated with the customer used for decoding the transformation.

1   146. (Original) An audio data playback device comprising:

2   a data processor;

3   a data storage medium, coupled to the data processor;

4   an audio transducer, coupled to the data processor; and

5   a customized audio data product stored in the data storage medium, the

6   customized audio data product comprising an audio data product customized using a

7   hearing profile of a customer.

1   147. (Original) The audio data playback device of claim 146, wherein the audio

2   transducer comprises a speaker mounted on a headset.

1   148. (Original) The audio data playback device of claim 146, wherein the audio

2   transducer comprises stereo speakers mounted on a headset.

1   149. (Original) The audio data playback device of claim 146, wherein the customized

2   audio data product comprises the audio data product transformed according to the hearing

3   profile, and a parameter for identification of the customer.

1   150. (Original) The audio data playback device of claim 146, wherein the customized

2   audio data product comprises a transformation according to the hearing profile of the

3   audio data product, and a parameter associating the customized audio data product with

4   the customer, and the data processor includes decoding logic responsive to the parameter

5   for playing the customized audio data product.

1   151. (Original) The audio data playback device of claim 146, wherein the customized

2   audio data product comprises at least a portion of the hearing profile, and the audio data

3   product for transformation according to the hearing profile, and the data processor

4   includes decoding logic responsive to said at least a portion of the hearing profile for

5   playing the customized audio data product.

1   152. (Original) An audio testing device comprising:

2   a data processor;

3   a data storage medium, coupled to the data processor;

4   a communication port, coupled to the data processor;

5   an audio transducer, coupled to the data processor; and

6   at least a portion of a hearing test program stored in the data storage medium, the

7   hearing test program comprising routines for execution of a hearing test using the

8   communication port and the hearing test program to produce hearing profile data of a

9   customer.

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1   153. (Original) The audio testing device of claim 152, wherein the communication port
2   comprises a port for connection to an external data processing device providing a user
3   interface for the hearing test program.

1   154. (Original) The audio testing device of claim 152, wherein the audio transducer
2   comprises a speaker mounted on a headset.

1   155. (Original) The audio testing device of claim 152, wherein the audio transducer
2   comprises stereo speakers mounted on a headset.

1   156. (Original) The audio testing device of claim 152, including a port adapted to couple
2   a removable data storage device to the data processor, and resources for playing an audio
3   data product stored in the removable data storage device.

1   157. (Original) The audio testing device of claim 152, including a battery, and wherein
2   the data processor and audio transducer are coupled to the battery.

1   158. (Original) The audio testing device of claim 152, including a headset, and wherein
2   the data processor, data storage medium, communication port and audio transducer are
3   mounted on the headset.

1   159. (Original) The audio testing device of claim 152, wherein the customer hearing
2   profile comprises coefficients of a transfer function to transform an audio data product
3   according a hearing characteristic of a customer.

1   160. (Original) The audio testing device of claim 152, wherein the customer hearing
2   profile comprises an identifier of transfer function to transform an audio data product
3   according a hearing characteristic of a customer.

1   161. (Original) The audio testing device of claim 152, wherein the customer hearing
2   profile comprises an identifier of a transfer function and coefficients of the identified

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3   transfer function to transform an audio data product according a hearing characteristic of

4   a customer.

1   162. (Original) The audio testing device of claim 152, wherein the customer hearing

2   profile includes a value indicating listening conditions in which a customized audio data

3   product is to be played.

1   163. (Original) The audio testing device of claim 152, wherein the customer hearing

2   profile includes a value indicating a hearing characteristic of a customer for whom a

3   customized audio data product is to be played.

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1   164. (Original) The audio testing device of claim 152, wherein the customer hearing

2   profile includes a specification of psycho-acoustic characteristics of a customer for whom

3   a customized audio data product is to be played..

1   165. (Original) The audio testing device of claim 152, wherein the customer hearing

2   profile includes an audiogram characterizing a customer for whom a customized audio

3   data product is to be played.

1   166.   The audio testing device of claim 152, wherein the customer hearing profile

2   includes software defining a transfer function for producing a customized audio data

3   product.

1   167. (Original) An audio testing and playback device comprising:

2   a data processor;

3   data memory coupled to the data processor;

4   a communication port, coupled to the data processor;

5   an audio transducer, coupled to the data processor;

6   a hearing test program stored in the data memory, the hearing test program

7   comprising logic used for execution of a hearing test using the communication port to

8   produce hearing profile data for use in production of a hearing profile of a customer; and

9   a customized audio data product stored in the data memory, the customized audio

10   data product comprising an audio data product customized using the hearing profile.

1   168. (Original) The audio testing and playback device of claim 167, wherein the

2   communication port comprises a port for connection to an external data processing device

3   providing a user interface for the hearing test program.

1   169. (Original) The audio testing and playback device of claim 167, wherein the audio

2   transducer comprises a speaker mounted on a headset.

1   170. (Original) The audio testing and playback device of claim 167, wherein the audio

2   transducer comprises stereo speakers mounted on a headset.

1   171. (Original) The audio testing and playback device of claim 167, including a port

2   adapted to couple a removable data storage device to the data processor, and resources

3   for playing an audio data product stored in the removable data storage device.

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1   172. (Original) The audio testing and playback device of claim 167, including a battery,

2   and wherein the data processor and audio transducer are coupled to the battery.

1   173. (Original) The audio testing and playback device of claim 167, including a headset,

2   and wherein the data processor, data memory, communication port and audio transducer

3   are mounted on the headset.

1   174. (Original) A method for conducting a hearing test, comprising:

2   providing a headset having stored therein audio test software;

3   coupling the headset to a data processor having a user interface;

4   executing a test using the audio test software and the user interface to develop a

5   hearing profile;

6   producing a customized audio data product using the hearing profile; and

7   playing the customized audio data product on the headset.

1   175. (Original) The method of claim 174, including storing the hearing profile on the

2   headset, and wherein the step of producing a customized audio data product comprises

3   processing an audio data product using the hearing profile stored in the headset.

1   176. (Original) The method of claim 174, including storing the hearing profile in a

2   remote site.

1   177. (Original) The method of claim 174, including producing the customized audio

2   data product in a remote site.

1   178. (Original) The method of claim 174, including storing the customized audio data

2   product on a machine readable medium, and coupling the machine readable medium to

3   the headset.

1   179. (Original) The method of claim 174, including storing the customized audio data

2   product on a portable data storage device, and coupling the portable data storage device

3   to the headset.

1   180. (Original) An article of manufacture comprising:

2   a data storage medium configured for connection to, and for disconnection from,

3   an audio playback device; and

4   a customer hearing profile stored in the data storage medium, the hearing profile

5   comprising data generated based on hearing characteristics of a particular customer.

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1   181. (Original) The article of claim 180, wherein the customer hearing profile comprises
2   coefficients of a transfer function to transform an audio data product according a hearing
3   characteristic of a customer.

1   182. (Original) The article of claim 180, wherein the customer hearing profile comprises
2   an identifier of a transfer function to transform an audio data product according a hearing
3   characteristic of a customer.

1   183. (Original) The article of claim 180, wherein the customer hearing profile comprises
2   an identifier of a transfer function and coefficients of the identified transfer function to
3   transform an audio data product according a hearing characteristic of a customer.

1   184. (Original) The article of claim 180, wherein the customer hearing profile includes a
2   value indicating listening conditions in which a customized audio data product is to be
3   played.

1   185. (Original) The article of claim 180, wherein the customer hearing profile includes a
2   value indicating a hearing characteristic of a customer for whom a customized audio data
3   product is to be played.

1   186. (Original) The article of claim 180, wherein the customer hearing profile includes a
2   specification of psycho-acoustic characteristics of a customer for whom a customized
3   audio data product is to be played.

1   187. (Original) The article of claim 180, wherein the customer hearing profile includes
2   an audiogram characterizing a customer for whom a customized audio data product is to
3   be played.

1   188. (Original) The article of claim 180, wherein the customer hearing profile includes
2   software defining a transfer function for producing a customized audio data product.
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